

ATTACHMENT - REMARKS

Claims 28-34 and 49-62 are pending in the present application. By this amendment, Applicant has amended claims 28-34, 49, 54, 56, 58 and 62. Applicant respectfully submits that the present application is in condition for allowance, based on the discussion which follows.

Claims 32-34 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. By this amendment, Applicant has amended claim 32 to be further consistent with statutory subject matter requirements under 35 U.S.C. § 101 as being directed to a computer implemented method. Accordingly, Applicant respectfully requests that the rejection to claims 32-34 under 35 U.S.C. § 101 be withdrawn.

Claims 62 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being unclear as to what device is implementing steps a)-h). By this amendment, Applicant has amended claim 62 to be further consistent with a Beauregard claim, wherein a computer readable medium comprises instruction which, when executed using a computer apparatus, performs the recited method. Accordingly, Applicant respectfully submits that claim 62 is in compliance with the requirements of 35 U.S.C. § 112, second paragraph, in accordance with the holding in the case *In re Beauregard*.

The Examiner rejected claims 28-30, 32-34, 50, 53-55, 57, 58, 61 and 62 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,940,812 (hereinafter "Tengel"), in view of U.S. Patent No. 7,437,343 (hereinafter "Josephson"). The Examiner contends that Tengel discloses all of the features of claims 28 and 32 of the present method, apart from "determining respective unions of the values, boundaries or

ranges of respective same decision criteria present in the at least two sets of decision criteria by analysing the data value, boundary or range, boundary requirements of each same decision criteria in the at least two sets of decision criteria, generating a superset of decision criteria which comprises at least one decision criterion from the at least two sets of decision criteria with the determined respective union of values, boundary or ranges" (essentially steps (b) and (c) of independent claims 28, 32 and 62). The Examiner then contends that these elements are disclosed by Josephson, and directs the Applicant's attention to claims 1 and 2 thereof.

Josephson discloses a system for facilitating the selection of a design (such as a car design) from a large number of alternatives. The three principal components of the system are described by reference to Figure 1. Seeker 100 generates or retrieves alternative candidates 102, and evaluates them according to multiple criteria (Josephson, column 4, lines 14-17). As Josephson explains: "The candidates 102 might be designs for a device, plans to achieve a set of objectives, alternative hypothesis for an experiment, alternative holdings for a stock portfolio, or any set of alternatives that are used and may want to consider and evaluate using multiple criteria" (Josephson, column 4, lines 17-22).

Secondly, filter 104 employs "any one of a number of filter algorithms to reduce the number of candidates to be considered" (Josephson, column 4, lines 33-35), such as a dominance filter algorithm in which a candidate is "removed... when there is another candidate that is at least as good as it" (Josephson, column 4, lines 40-43). Thus, a number of candidates are eliminated in order to make the number of remaining candidates more manageable.

Thirdly, viewer 108 “permits the user to view trade-offs in multiple scatterplots and select subsets interactively” (Josephson, column 5, lines 11-14). Figures 2 and 3 illustrate the operation of viewer 108: in Figure 2, viewer 108 plots highway mileage versus city mileage of car design candidates *after* filter 104 has removed dominated candidates, while in Figure 3, viewer 108 plots time to reach 60 mph versus city mileage (again, with dominated candidates removed). In addition, in Figure 3 the user has controlled the system to box 120 candidates with a time to reach 60 mph of no more than 12 seconds; the survivors are again displayed, but—in Figure 4A—in a plot of highway mileage versus city mileage.

Thus, Josephson's system, applied in the Office Action as disclosing the claimed unions of values, allows the more convenient comparison of alternative design candidates, so that inferior candidates can be (i) automatically removed with filter 104 and (ii) manually removed by use of viewer 108.

The method and apparatus of the present invention, in sharp contrast to Josephson, determines “respective unions of the values, boundaries or ranges of respective same decision criterion present in the at least two sets of decision criteria...” and generates “a superset of decision criteria which comprises at least one decision criterion from the at least two sets of decision criteria with the determined respective union of values, boundary or ranges” (cf. steps (b) and (c) of claims 28, 32 and 62, *emphasis added*). As will be readily appreciated by those in the art, this superset will embrace—for any particular criterion—the full range of information necessary if all application recipients are to be receive complete applications. As is explained in the present specification, as filed, from page 23, line 38:

"In the Example, it should be noted that Lender C does not have a Net Surplus criterion. However, this is required by Lender A and B. Therefore, it must be included in the superset of decision criteria. In the Example, therefore, the superset of decision criteria includes the following: Loan Amount, Security, Net Surplus, Debt Service Ratio and Refinance Limits."

That is, the process of forming the superset referred to in step (c) of claims 28, 32 and 62 constitutes an aggregation of decision criteria. This is the opposite of the procedure of Josephson, which facilitates the removal of alternatives, on the basis of their inferiority.

The formation of a union of sets may include the elimination of duplicates, but even this differs from removing design alternatives according to Josephson. In Josephson, the design candidates removed by filter 104 and viewer 108 are always different from, and generally inferior to, those that are preserved: filter 104 and viewer 108 remove a number of the alternative (*i.e.*, different) design candidates so that a more manageable number remains.

Claim 1 of Josephson closely conforms to Josephson's preferred embodiment. Claim 1, step (a)—embodied as filter 104—defines a component that "produces a subset from said set of decision alternatives D_1-D_n using a multi-criterial filter", including "removing from said set of decision alternatives D_1-D_n decisions alternatives that are inferior according to said values for said at least two criteria C_1 and C_2 wherein inferiority is determined according to whether larger values for C_i or smaller values for C_i are preferred" (*emphasis added*).

Claim 1, step (b)—embodied as viewer 108—defines a component that "presents on a computer display said subset of said set of decision alternatives D_1-D_n produced

by said multi-criterial filter of said first software component, wherein additional decision alternatives in said subset of said set of decision alternatives D_1-D_n are removed from said subset of decision alternatives, forming a favored sub-subset of decision alternatives, in consideration of specific values of said decision alternatives according to computed criteria applied to decision alternatives in said subset of decision alternatives" (*emphasis added*).

Thus, it will be seen that Josephson emphasizes the removal of distinct though inferior decision alternatives, while the present invention is directed to ensuring that all decision criteria are captured, with at most the elimination of duplication.

Furthermore, it should be noted that the decision alternatives of Josephson and the decision criteria of the present invention should not be equated. The decision alternatives of Josephson are alternatives between which a choice must be made. For example, the designer must choose between different car designs, and this is facilitated by filter 104 and viewer 108: each different car design is one such "decision alternative".

The decision criteria of the present invention are, instead, the basis for assessing an application (as the name, decision criteria, dictates), and hence approve or reject the application. The entire application is a better analogue of a decision alternative of Josephson, as an application recipient will presumably generally receive many (*e.g.*, loan, college admission) applications and be compelled to eliminate (*i.e.*, reject) some of the applications; the eliminated applications may be regarded as removed decision alternatives.

On the other hand, the decision criteria of the present method are more closely analogous to the "at least two criteria C_1 and C_2 " of claim 1 of Josephson, being the

basis for assessing an application (according to the present method) or removing decision alternatives (according to Josephson). However, Josephson includes no disclosure of applying steps comparable to steps (b) and (c) of claims 28, 32 and 62 of the present method to the "at least two criteria C_1 and C_2 " of claim 1.

In view of the foregoing, Applicant respectfully submits that the Examiner has misconstrued the nature of the analysis performed by Josephson to erroneously construe that one of ordinary skill in the art would have been motivated to use the approach of Josephson as an effective means of analyzing multiple criteria. As is apparent from the above, Josephson's analysis eliminates inferior alternatives whereas, according to the present method (as defined in steps (b) and (c) of the independent claims), at most duplication is removed. Indeed, the closest analogue to the removal of "decision alternatives" is, according to the present invention, the rejection of an application during its assessment, but this is a part of steps (b) and (c) of the independent claims. These steps instead form a part of a procedure for the efficient collection of sufficient information for the assessment of an application by multiple parties.

Applicant respectfully submits, therefore, that the claims of the present application are indeed patentable over the cited combination of art.

Moreover, the combination of Josephson, in view of Tengel, fails to make the claimed method obvious. Although Tengel—like the present method—refers to applications (in the form of loan applications) and decision criteria (in the form of loan acceptance criteria), Tengel's system is adapted for the specific task of ranking loans according to their suitability for a particular borrower. Tengel:

"compares the borrower attributes of the potential borrower with all of the loan acceptance criteria stored in the database to determine any available loans for the potential borrower. The loan attributes of the available loans are analyzed to determine *rankings of best loans*. From the rankings of best loans, the borrower chooses a selected loan provided by a selected lender" (*see, present specification, abstract; emphasis added*).

Thus, in Tengel the closest analogue of Josephson's "decision alternatives" are in fact loans, *not* loan applications so, even if Josephson's approach constitutes an effective means of analyzing multiple criteria, if applied to Tengel, it would at most facilitate the removal of some of the available loans (perhaps those below some predefined rank following the ranking process). Such a combination would not have the characteristics of the present method, and in particular would not form a superset of decision criteria through the process defined in steps (b) and (c) of independent claims 28, 32 and 62.

Referring to claims 29, 33 and 57, the Examiner directs the Applicant to Figure 5 of Tengel. Figure 5 discloses a loan application form 500 "implemented in a similar manner as described for form 300 of FIGS. 3A and 3B" (Tengel, column 8, lines 40-42). Figures 3A and 3B depict a table of loan acceptance criteria 300 "as displayed on a lender screen 350 of a lender terminal" (Tengel, column 5, lines 21-22). Once a lender has completed and submitted form 300, "the loan acceptance criteria entered on the form is then processed by the server processor 112" (Tengel, column 7, lines 9-11), then the loan acceptance criteria are sent "for storage in the database 110 of the server terminal 109" (Tengel, column 7, lines 20-22).

Thus, loan application form 500 of Figure 5 may be "implemented in a similar manner as described for form 300", but there is no disclosure in the description of the implementation of form 300 or form 500 of "optimizing the sequence [of the questions]

to reduce or minimize said number of questions", as recited in claim 29. That is, there is no disclosure of controlling the sequence (*i.e.*, the "order of succession") of the questions presented in form 500, whether to minimize their number or otherwise.

Applicant respectfully submits, therefore, that claims 29, 33 and 57 are patentable over the cited art.

Referring to claims 50 and 58, the Examiner again directs the Applicant to Figure 5 of Tengal, and contends *inter alia* that the feature of including "introductory questions in at least some of said groups of questions to reduce ambiguity in the respective group of questions" is disclosed thereby. Firstly, it is not apparent that the questions contained in form 500 of Figure 5 indeed constitute "groups of questions": form 500 does not clearly delineate any such groups. In any event, even if a number of those questions are regarded as constituting a group, there is certainly no "introductory question" in any such group said to be adapted to "reduce ambiguity in the respective group" of questions. It is submitted that this feature in particular is novel over the disclosure of Tengal, and as a consequence claims 50 and 58 are patentable over the cited art.

Similarly, there is no disclosure in Figure 5 of the features of claims 53-55, 62 and 63. Claims 53 and 61 define "refraining from requesting certain application information deemed non-critical in some or all circumstances." Claim 53 and 61 depend from claims 28 and 32, respectively, wherein "application information" is defined in step (d) has been "required from the applicant to assess the application against the superset of decision criteria for the two or more of the plurality of application recipients." Thus, the "application information" is not merely information in a general sense, but rather

information determined to be required if an application is to be assessed against all decision criteria. Consequently, claims 53 and 61 define an embodiment in which certain information is not requested even though it is required, because it is deemed non-critical.

Tengel includes no disclosure or teaching of such a step. As Tengal is best understood, form 500 includes as many questions as are necessary to evaluate the loan application against all the relevant lender acceptance criteria previously identified by means of form 300. Tengal includes no disclosure of actively refraining from including a question even though that question is required in order to address a relevant acceptance criterion.

Thus, Applicant respectfully submits that claims 53 and 61 include a feature that is not disclosed by or even suggested in the cited art, and hence is patentable over that art.

Referring to claim 54, the Examiner directs the Applicant's attention to Figures 2A and 5. The Examiner contends that Tengal thereby discloses "forming the superset decision criteria from the respective sets of decision criteria." However, the cited portions of Tengal merely disclose the maintenance of a database of respective lender acceptance criteria; there is no disclosure of in any way processing or manipulating the respective sets of decision criteria to arrive at a "superset of decision criteria" as defined in the present claims; this defect is not cured by reference to Josephson, for the reasons discussed above. Rather, Tengal merely discloses a database of distinct sets of lender acceptance criteria, for retrieval on demand when an application form is to be generated for a specific loan.

Applicant respectfully submits, therefore, that claim 54 is patentable over the cited art.

Referring to claim 55, the Examiner contends that Tengel (in particular the Abstract, Figures 2A to 3B, and column 6, lines 46 to 61) discloses the feature of "determining what application information is required to assess the application against the superset of decision criteria." At best, these portions of Tengel disclose determining what information is required to assess an application against a particular lender's acceptance criteria; there is absolutely no disclosure of determining what information is required to assess an application against a superset of decision criteria, as defined in independent claim 28.

This is no trivial distinction: the superset of decision criteria is created in a very specific manner (see claim 28), so that (i) it cannot be equated with the decision criteria of any particular lender or with a simple aggregation of the decision criteria of all the application recipients, yet (ii) the information required to assess the application against the superset of decision criteria allows the application to be assessed by or on behalf of all the plurality of application recipients. There is no suggestion in Tengel of such a superset of decision criteria, let alone of determining what application information will be required to assess the application against the superset of decision criteria.

Applicant respectfully submits, therefore, that claim 55 is patentable over the cited art.

The Examiner rejects claims 31, 49, 51, 52, 56, 59 and 60 under 35 USC § 103(a) as unpatentable over Tengel and Josephson, and further in view of U.S. Patent No. 5,960,411 (hereinafter "Hartman").

Regarding claim 31, the Examiner contends that Tengel does not explicitly recite presenting to a user a series of forms, but that Hartman teaches filling out an application comprising multiple electronic forms (the Abstract and Figures 1A, 2 and 8A to 8C), providing a sequence of forms whereby the requesting of unnecessary information is avoided (Figures 1C, 4 and 8A to 8C, and accompanying text) and, after completing a first form then constructing and presenting second and subsequent forms containing subsequent information on the basis of information provided by an applicant in the first form (Figure 1A, column 4, lines 44 to 58 and column 9, lines 25 to 53).

Firstly, it should be emphasized that claim 31 does not merely avoid requesting unnecessary information and generate second and subsequent forms on the basis of information provided by the applicant in an earlier form. Rather, the second and subsequent forms are constructed on the basis of information returned in one or more earlier forms to facilitate the avoidance of requesting unnecessary information. Avoiding the requesting of unnecessary information may be a common desire, but the applicant has appreciated that the generation of second and subsequent forms on the basis of information provided by an applicant in one or more earlier forms can be exploited to do so, a solution to the problem of requesting unnecessary information that is simply not disclosed by the prior art.

Furthermore, the term "unnecessary information" is defined as being "information rendered redundant by the information provided by the applicant in an earlier completed form." "Redundant" is defined by the Oxford English Dictionary as "superfluous; not needed; that can be omitted without any loss of significance." Unnecessary information is thus information that is not required; it is *not* information that is already known.

(Information that is already known would be termed “known information”, “previously obtained information” or the like.)

In accordance with the present method as claimed and disclosed in the present specification, an example of “information rendered redundant” would be the name of a user’s spouse when an earlier question “Are you married?” has been answered by the user with the response “No”. It is a common practice to include both of these questions in a single form, in order to accommodate both married and unmarried applicants. According to the embodiment of claim 31, however, the apparatus could refrain from presenting the question “What is the name of your spouse?” to any applicants who had previously answered “No” in response to the question “Are you married?”. Information about the name of the user’s spouse, and hence indeed the question itself, become redundant because they are irrelevant to a user who is unmarried, *not* because the apparatus is already in possession of—in this example—the name of the user’s spouse. Hartman makes no reference to these concepts, or to the solution provided by the present invention.

Furthermore, Hartman includes no teaching of “constructing and immediately presenting” second and subsequent forms to an applicant. Thus, the form of, for example, Figure 1A has been pre-populated with the name of the user (“John Doe” 103b), and consequently the user need not enter his name. However, this example can be distinguished from claim 31 in a number of ways. Firstly, the form of Figure 1A was not “constructed and immediately presented” to the applicant (cf. step (b) of claim 31) following the presenting to the applicant of a first selected form (cf. step (a) of claim 31). Rather, according to Hartman, the user would at some earlier time have registered his

details, including name and address, as a part of applying for an account with the Vendor. The procedure illustrated in Figure 1A may be viewed as an application for the purchase of goods, and so is a separate application from the earlier application for an account. Thus, the form of Figure 1A cannot be described as constructed and immediately presented to the applicant, as defined in claim 31, and nor can the form of Figure 1A be regarded as the second or later of a plurality of forms constituting a single application.

Additionally, even if the form of Figure 1A is regarded as part of a single continuous process, in which—at some earlier point—the user enters his name and address, the form of Figure 1A is not being constructed in a manner that avoids the “requesting of unnecessary information..., which unnecessary information being information rendered redundant by the information provided by the applicant in an already completed form”: the name of the user is “previously obtained information”, *not* “information rendered redundant.”

Similar remarks apply to the web page of Figure 1C. Certain “previously obtained” information is displayed (again including the name of the user), but there is no suggestion that the construction of the web page of Figure 1C proceeds in a manner that is allowed the avoidance of the requesting of unnecessary information. Indeed, Figure 1C is merely a order information 106, 107: it is not itself a form and, in any event, represents the aggregation of previously submitted information rather than a selective request for further information.

The examples shown in Figure 8A to 8C are still further removed from the embodiment of claim 31 of the present application. As is explained from column 9,

line 8, these Figures illustrate a hierarchical data entry mechanism. The form of Figure 8A includes sections A, B, C and D. When a user clicks on any one of these sections, the corresponding section expands "to include the data entry field for the customer name and address," "so that the financial information may be entered," etc. Screen space is thus conserved, as each sub-form corresponding to sections A, B, C and D may be displayed successively.

There is no suggestion, however, that the information submitted in any one of these sub-forms is used in the design of any subsequent sub-form (cf. step (b) of claim 31), or that this or any other approach allows the system of Hartman to avoid requesting unnecessary information "being information rendered redundant by the information provided by the applicant in an already completed form." For example, the form shown in Figure 8C requests the annual of income of the user's spouse. There is no suggestion in Hartman that this question will be omitted if a user is unmarried.

When the specific characteristics of the embodiment of claim 31 are fully considered, including the manner in which the requesting of "unnecessary information" is achieved, how "unnecessary information" is defined and the fact that second and subsequent forms are "immediately" presented after construction to the applicant, it is apparent that they are not in fact disclosed by Hartman, and consequently it is submitted that claim 31 is patentable over the cited combination of prior art documents.

Regarding claims 49 and 56, there appears to be no disclosure in Hartman of determining any dependency of any of the decision criteria on any other, of promoting in the sequence (of questions) those questions whose responses render a high, or a greatest possible common number of related questions redundant, or of omitting any

questions thereby rendered redundant. Indeed, Hartman makes no reference to controlling the "sequence" (*i.e.*, order) in which questions are presented so it is understandable that there is also no disclosure of controlling that sequence by promoting some questions according to such dependency.

Applicant respectfully submits, therefore, that claims 49 and 56 are patentable over the cited art.

Similarly, claims 51 and 59 refer to "adjusting the sequence of questions yet to be presented" in response to questions previously presented to the applicant" but Hartman makes no reference to the sequence of questions, or to adjusting that sequence. Hence, it is respectfully submitted that the embodiment of claims 51 and 59 are patentable over the cited art.

Regarding claims 52 and 60, the Examiner points out that Hartman teaches a system for detecting "errors", and concludes that a decision has to be made as to what is an error. This may be correct, but claims 52 and 60 do not merely recite detecting errors; they also define "ignoring one or more defects... on the basis of preset tolerances for decision certainty." Hartman actually teaches against such an approach. Hartman's only reference to error detection appears in column 9, lines 36 to 40. Hartman explains that, if an error is detected, "a Web page is generated with the error message in close proximity... to the data entry field that contains the error. This Web page is then displayed by the client's system to inform the user of the error." Hartman makes it clear that an error should not be ignored and it appears that the error message will continue to be displayed until the error is rectified by the user. This and other

measures (Hartman, column 9, lines 41 to 53) are employed by Hartman to ensure that the information provided by the user is error-free.

This is the antithesis of ignoring one or more defects. Claims 52 and 60 employ a very different approach, as it defines ignoring defects (of which an error is a clear example) according to preset tolerances. Just as error detection must be programmed, so too must the ignoring of one or more defects "on the basis of preset tolerances". This recitation constitutes a positive feature that is in no way suggested by Hartman and indeed if anything contrary to the teaching of Hartman.

Applicant respectfully submits, therefore, that this feature of claims 52 and 60 is not disclosed or in any way suggested by Hartman, is counterintuitive in the light of Hartman, and consequently that claims 52 and 60 are patentable over the cited art.

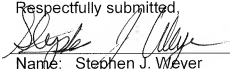
Based on the foregoing, Applicant respectfully submits that all claims are clear of the prior art.

In view of the foregoing, Applicant respectfully submits that the present application is in condition for allowance.

Respectfully submitted,

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